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ABSTRACT

The National Center for Research in Vocational Education's performance-based teacher education (PBTE) materials have been widely adopted and have had a marked impact on vocational instructor training and staff development. It has been found that the cooperative development procedures, extensive field testing, and the numerous institutional, state, regional, and national workshops conducted to train resource persons contributed significantly to the dissemination of the concepts and materials and to the implementation of PBTE programs. Evidence indicates that PBTE programs are having a long-term impact on improving the quality and competence of vocational teachers and instructors. They have also increased the productivity of some teacher education programs by shortening the time required for certification. The PBTE movement has added emphasis to a competency-based approach for both students and teachers. Because of the success of the National Center's materials, additional materials are being developed using the same basic research, development, and dissemination methodology. A multistate consortium effort is also supporting the development of competency-based modules designed specifically for the preparation of local administrators of secondary and postsecondary vocational programs. An evaluation determined that PBTE concepts and materials provide a promising alternative to the more conventional methods of instructor and leadership training, and the National Center is available to help develop and implement such materials for those who need them. (Two case studies of PBTE in use in teacher preparation programs, along with a list of the PBTE modules, are included in the report.) (KC)

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INSTRUCTOR TRAINING

The training of instructors[1] has long been recognized as a national, as well as an international, concern. During the 1960s and 1970s, there was general dissatisfaction with many of the teacher/instructor training programs in the United States. Many of these programs tended to emphasize the theory of teaching rather than focusing upon the instructional skills needed to be successful on the job. Some states still lack adequate numbers of vocational instructors who possess both the technical and professional skills needed to be a successful instructor.

Many postsecondary training institutions are recruiting highly qualified technical experts from industry as part-time or full-time instructors. Unfortunately, many of these persons are thrust into instructional roles with very little, if any, professional preparation. When these experts do not possess the teaching skills required to be successful, some excellent potential instructors quit their jobs out of sheer frustration. As the November-December 1983 issue of VocEd so aptly stated, most of our vocational, technical, and industrial training centers have found that "teaching skills require just as much care and fine tuning as technical and mechanical skills."

On the international scene, it is also quickly apparent that the training of instructors is high on the list of factors needing attention if the human resources of most countries are to be effectively utilized. Two brief citations will serve as examples of this need:

- The members of the Technical Committee of APSDEP, meeting in Manila in July 1979, agreed that the "training of key personnel, particularly trainers and instructors, was an area of primary concern. The representatives of the governments expressed a willingness to share whatever expertise and experience they possess in regard to training systems, materials, and facilities through APSDEP."[2]
- "A priority amongst the needs which ILO is called upon to satisfy is the need for training at all levels. Whilst Asia and the Pacific possess the manpower required for carrying out the tasks of economic and social development, they suffer from a shortage of trained people and training expertise without which their human resources cannot be effectively utilized."[3]

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1. The terms instructor, trainer, and teacher are considered to be synonymous in this paper.

2. H. S. N. Murthy Rao, Regional Training of Trainer Trainers on a TCDC Basis (Madras, India: Advanced Training Institute, October 1983).

3. Andre Aboughanem, Training of Trainers in Asia and the Pacific (Turin, Italy: International Center for Advanced Technical and Vocational Training, February 1982).

Granted that there is a worldwide need for effective instructor training programs, what are some of the specific instructor training needs that must be addressed? Information available from both research and practical experience suggests at least the following specific needs:

1. The need for more, and more competent, instructors in many occupational areas. The shortage of qualified instructors in some occupational areas in some countries is a severe handicap to their social and economic development.

2. The need for instructor training programs that are based on the actual job requirements of the trainers and instructors. Too many courses and workshops for instructors are still emphasizing theoretical concepts in hopes that the trainees will, largely on their own, be able to apply those concepts to practical instructional situations.

3. The need for instructor evaluations that are performance-oriented rather than knowledge-oriented. Most often, instructor trainers have assessed instructors' teaching skills using primarily cognitive and norm-referenced assessment methods. There is a false assumption inherent in that approach, however: The instructor who knows about the teaching process will not automatically be able to perform effectively in the classroom and shop.

4. The need to provide instruction that can be tailored to the individual needs of the instructor in training. Educators have long been aware of the need to individualize the learning process so as to accommodate each trainee's needs. While instructor trainers often tell the instructors they must individualize instruction for their trainees, their own classes are all too often conducted in a large-group, lockstep manner.

5. The need to provide instruction that allows for a variety of realistic learning experiences and options. Different instructors have different learning styles and learning preferences; hence, it is important to provide for alternative learning experiences whenever possible.

6. The need for instruction that provides immediate and frequent feedback to the learner. The instructor needs to know how well he or she is progressing toward achieving the necessary teaching skills on a regular, almost daily, basis.

7. The need for instruction that holds both the instructor trainer and the instructor trainee accountable. If both persons are important to the learning process, as most would agree, then they obviously share responsibility for the learning that should occur.

8. The need for instruction that is both cost-efficient and maximally effective. Training is costly, so program effectiveness and efficiency need to be enhanced by focusing on actual requirements of the instructor's job--those competencies essential to the training/teaching function.

Given the needs outlined, it is apparent that a few minor modifications in the conventional approach to instructor training in the United States will not suffice. Many traditional and time-honored practices need to be replaced by a more scientific and systematic approach to instructor training.

Development of PBTE as a Response

To respond to these instructor training needs, staff at the National Center for Research in Vocational Education developed, with federal government support, an alternative approach to teacher/instructor preparation called performance-based teacher education (PBTE).

PBTE is an approach to instructor preparation in which (1) the training program is based on the competencies (specific job tasks) required of successful vocational and technical instructors and (2) the instructor must not only obtain certain knowledge but is also required to demonstrate the essential teaching skills in an actual instructional situation.

There are five essential elements and seven desirable characteristics[4] that serve to establish the operational framework for any PBTE program. The essential elements are as follows:

- Competencies to be achieved by the instructors are carefully identified, verified, and made public in advance.
- Criteria to be used in assessing achievement and the conditions under which achievement will be assessed are explicitly stated and made public in advance.
- Assessment of competency takes the instructors' knowledge and attitudes into account but depends upon actual performance as the primary source of evidence.
- The instructional program provides for the individual development and evaluation of each of the competencies specified.
- Trainees progress through the instructional program, at their own rate, by demonstrating the attainment of specified competencies.

The additional elements--the desirable characteristics--associated with most PBTE programs may include any or all of the following:

- Instruction is individualized to the maximum extent possible.
- Learning experiences are guided by immediate feedback.
- Emphasis is on meeting exit requirements.

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4. The essential elements and desirable characteristics presented here are adapted from Achieving the Potential of Performance-Based Teacher Education Recommendations (Washington, DC: American Association of Colleges for Teacher Education, 1974).

- Instruction is individually paced rather than time-based.
- Instruction is, to a considerable extent, field-centered.
- Instruction is often modularized and uses materials with both required and optional learning activities--to achieve flexibility and provide for various learning styles.
- The program as a whole is carefully planned and systematic.

The Research Base

The first question that needed to be answered was, What teaching skills does a person need to possess in order to be an effective vocational instructor? Under the sponsorship of the U.S. Office of Education, the National Center began work in 1967 to determine the professional competencies required of vocational instructors. Approximately 1000 vocational instructors, supervisors, and instructor trainers were involved in the identification and verification of 384 job tasks considered important for vocational instructors in the various occupational areas of concern. The 384 job tasks were then clustered into ten categories representing major areas of instructional responsibility.

Materials Development

Given this research base, the National Center, under sponsorship of the U.S. Office of Education, initiated development of a comprehensive set of curricular materials that would meet the training needs of vocational instructors and incorporate the essential elements of PBTE. The materials that resulted from this endeavor are products of a sustained research and development effort that has focused upon the actual preparation needed by persons who expect to teach with optimum effectiveness.

Nature of materials. The curricular materials are in the form of individualized learning packages, or modules, each of which has as its base one or more of the 384 competencies. By basing the modules on the identified competencies, there was assurance that the objectives of the modules represent competencies actually needed by vocational instructors, at both the secondary and postsecondary levels, and in all occupational areas.

Each module provides learning experiences that integrate theory and application; each culminates with criterion-referenced assessment of the instructor's performance of the specified competency. The materials are designed for use by individuals or groups of teachers/instructors working under the direction and with the assistance of instructor trainers or other professional staff acting as resource persons.

The design of the materials provides considerable flexibility for planning and conducting performance-based preservice and inservice instructor training programs to meet a wide variety of individual needs and interests.

The materials are intended for use by universities and colleges, state departments of education, postsecondary institutions, local education agencies, and others responsible for the professional development of vocational teachers or instructors.

Module development. The module development process was structured to ensure maximum involvement of persons representing all occupational areas and actively engaged in vocational instructor preparation. Each module was originally developed in cooperation with vocational instructor trainers at Oregon State University, Corvallis, and University of Missouri-Columbia. National Center staff also worked on-site with the module writing teams.

A system of development, review, and revision was followed by the writing teams at each of these sites during the initial module development. In this manner, a total of 123 prototype modules were developed. Following development of each module to the satisfaction of the faculty at the site, the module was then forwarded to the other site for review and critique by its faculty. Each module also underwent review and critique by National Center staff. Then a synthesis of all faculty and staff reviews was developed, and the module was revised by National Center staff. New combinations of the competencies resulted in reducing the number of modules to 118.

Preliminary testing and revision. Initial testing of the PBTE materials was carried out during 1973-74 at Oregon State University, University of Missouri-Columbia, and Temple University. Each of the 118 modules was used by a minimum of ten preservice and/or inservice vocational instructors at one or more of the test sites. Reaction forms were completed by each instructor for each module used and by each instructor trainer (resource person) for each module he or she administered. In addition, in-depth taped interviews were conducted to clarify and gain additional feedback from instructors and resource persons for a sampling of the modules tested.

Concurrently the California Testing Bureau of McGraw-Hill conducted psychometric refinement of the objectives and assessments of each of the 118 modules. Several individual modules and entire categories of modules were also reviewed and critiqued by independent consultants and subject matter experts during this phase of the project.

Using the inputs from instructors, resource persons, psychometric refinements, and consultant reviews, each of the modules underwent a major revision of content and format. The typical instructional sequence for National Center modules, which reflects the revised format, is illustrated in Figure 1. This major revision was initiated by National Center staff during the summer of 1974, with completion occurring in the spring of 1976. In the revision process, the total number of modules was again reduced through recombinations--this time to 100 modules.

Advanced testing. Initially, three advanced testing sites were selected and testing began during the winter of 1975. During the spring and summer of 1975, advanced testing was also initiated at four self-sponsored sites. In the fall, ten additional advanced testing sites were added through U.S. Office of Education sponsorship of a National Institute for PBTE.

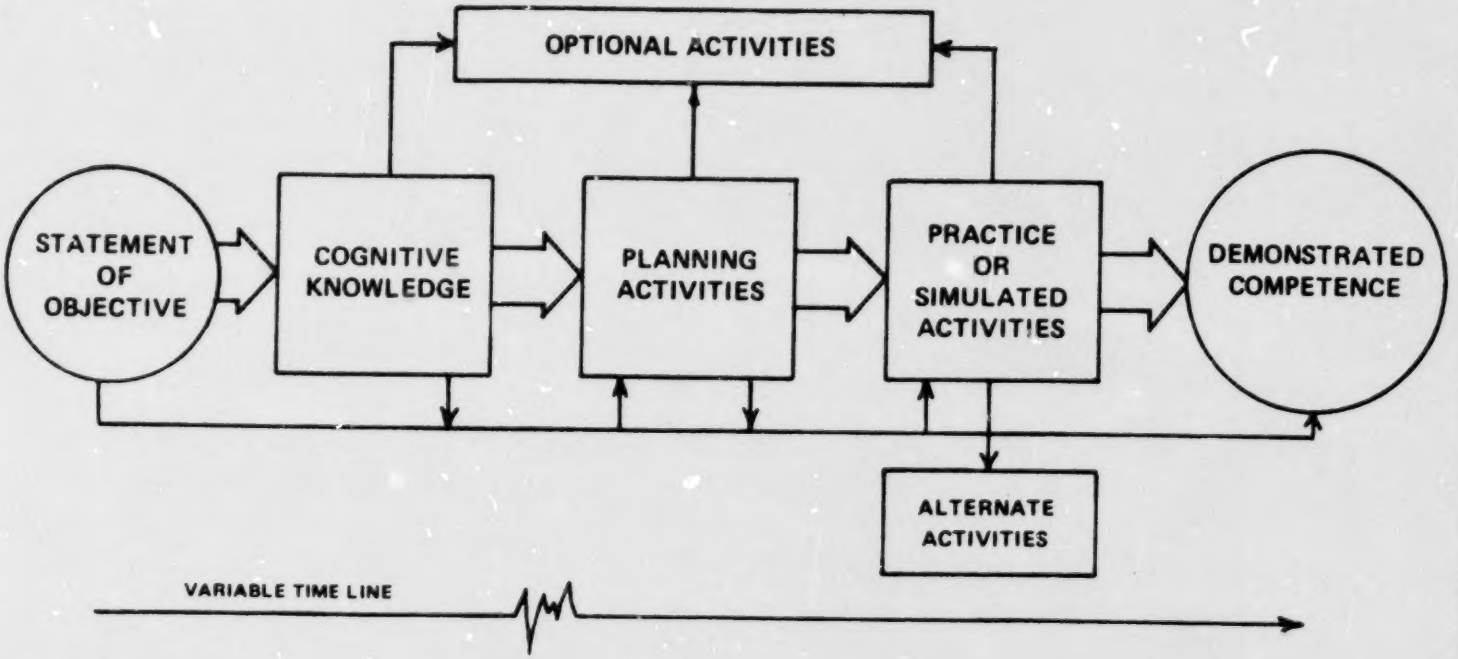

Figure 1. Typical Instructional Sequence for National Center Modules

From 1975 through 1976, advanced testing of the materials was conducted at the 17 sites, representing wide geographic areas and settings as well as several differing PBTE program structures. Feedback was gathered from each individual using the modules and from each resource person to further improve the materials and to document their effectiveness. More than 2,500 preservice and inservice instructors and 250 instructor trainers and other resource persons participated in the testing and provided feedback to the National Center. This user feedback provided information concerning the characteristics of the user and how well the materials served his/her needs.

Advanced testing data showed the modules to be generally highly effective in developing the specified competencies in both preservice and inservice training programs. Pre/post-estimates of instructor trainee performance showed increases in ability to perform the specified competency for each of the 100 modules. Furthermore, these increases were statistically significant at the .01 level of confidence for 98 of the 100 modules. Further, the subjective reactions of both instructor trainers and trainees regarding the quality and utility of the materials were highly positive.

Refinement, publication, and dissemination. The National Center completed an agreement for commercial publication of the PBTE materials in mid-1976. At that time, the publisher, American Association for Vocational Instructional Materials (AAVIM), and National Center staff jointly determined the final format of the materials. Based upon the advanced testing feedback, few substantive changes were necessary. Refined materials were delivered to the publisher from September 1976 through September 1977. The publisher initiated incremental release of published materials in March 1977, with release of the last materials occurring in summer 1978.

The National Center's curricular materials consisted initially of 100 PBTE modules, clustered into 10 categories, and related supportive materials. Recently, 25 additional modules in 3 additional categories have been prepared and either are or soon will be available. See Attachment A for a complete listing of the 13 categories, 125 modules, and 4 support documents.

Joint dissemination activities have been and continue to be carried out by the National Center, by the publisher, and through federal, state, and regional sponsors to provide orientation and training for effective implementation and use of the PBTE curricular materials.

In a performance-based training program, the resource person (instructor trainer, instructional supervisor, staff development coordinator, etc.) has a unique and essential role to perform. This role, which includes the functions of serving as advisor, facilitator, and assessor, is very different from the traditional roles performed by instructor trainers and staff development leaders.

The National Center's field-testing and training experience with many different educational institutions repeatedly reinforced the need for the adequate training of PBTE users. Hence, both the developer and publisher strongly recommend that institutions or other agencies or countries planning

to use these materials arrange for the provision of adequate training to ensure the most effective use of the materials and concepts.

Use of Materials

Full-scale implementation, as well as partial implementation, of the PBTE concepts and materials has occurred at many public and private agencies across the United States. Vocational teachers and instructors, industrial trainers, staff development coordinators, local and state supervisors, and many others involved in the professional preparation of persons for teaching roles at all levels are using the materials.

From March 1978 through June 1983, more than 500,000 PBTE modules were sold. In addition, more than 1,675 different agencies and 685 individuals have purchased the modules, including over 1,300 educational agencies and over 375 business and industrial firms. The primary users have been colleges and universities, which represent 59 percent of the total sales.

All 50 states, five U.S. territories, 11 Canadian provinces, and 40 other foreign countries also have purchased the materials. Because of the international demand for the materials, distributorships have already been established in the United Kingdom and Australia, and it is expected that a distributor in the Asia/Pacific region will soon be designated.

The materials are being used mainly by (1) training institutions concerned with preservice and inservice teacher/instructor preparation and (2) private and public agencies concerned primarily with staff development or the inservice training of instructors.

Teacher education use. As one might expect, the most extensive use of PBTE concepts and materials in the United States is occurring in the colleges and universities that have teacher preparation as one of their major responsibilities. Of the 1,300 educational agencies that have ordered the modules, 400 are colleges and universities. Some of these institutions use the materials primarily in their preservice programs, while others use them more in their inservice courses and workshops.

Major use has occurred in what might be described as a "blending" approach whereby selected modules are substituted for specific units of a given course. Extensive use has also occurred in "total course substitution" approaches whereby one or more courses are taught in a performance-based manner using a cluster of modules as an alternative to lectures. In several institutions, all the professional preparation required of teachers is offered through a "total program conversion" to the use of PBTE concepts and materials. See Attachment B for a brief description of one such program in operation at the University of Central Florida.

Staff development use. The use of PBTE materials by organizations other than colleges and universities for staff development or inservice training

represents 41 percent of total module sales. The major users in this category are as follows:

- Public and private secondary schools
- Public and private postsecondary institutions (two-year)
- State education agencies
- Business, industry, and labor organizations
- Noneducational government agencies

In the secondary schools, the PBTE modules are primarily used for improving the skills of practicing teachers. In the 210 postsecondary institutions purchasing the materials, the modules are used in staff development programs run by the institution itself. Frequently, they are used with part-time, as well as full-time, instructors to help them acquire critical teacher "survival skills," and in some states to meet certification requirements. See Attachment C for a brief description of how PBTE concepts and materials are used in the Alburquerque [New Mexico] Technical-Vocational Institute.

Most of the 50 state departments of education have purchased either sets of the modules for placement in area vocational school staff libraries and/or quantities of individual modules for use in local-, regional-, and state-level teacher inservice education workshops.

In addition to the educational agencies, more than 375 businesses, industries, and labor groups are using the modules as part of their instructor training programs. The materials have been purchased by such well-known companies as Caterpillar Tractor, General Electric, International Business Machines, Kodak, Mobil Oil, Sears and Roebuck, Union Carbide, and United Airlines. Among the noneducational government users are the U.S. military, state and federal corrections and law enforcement agencies, and the U.S. Department of Agriculture's forest and soil conservation services.

Results Obtained

Educators frequently ask questions such as the following: What evidence is there that PBTE works any better than conventional instructor training and staff development programs? Why should we change to the PBTE approach unless there is significant evidence that it is better than what we are now doing? These are fair and legitimate questions. While the research needed to answer those questions conclusively is complex, expensive, and fraught with difficulty, some answers are now becoming increasingly clear.

In 1980, an impact evaluation research study on the National Center's PBTE curricula was completed by Adams, MacKay, and Patton.[5] The findings reported by Adams et al are based on an in-depth study of two universities that have fully operational PBTE programs and on additional data collected through telephone interviews with 71 other persons representing programs using PBTE concepts and materials.

Three levels or types of positive effects were reported: (1) effects on the instructor training programs, (2) effects on vocational instructors, and (3) effects on vocational education classrooms and students.

According to this study, PBTE has been especially effective in changing instructor training programs. It has accomplished the following:

- Increased the accountability of instructor training programs.
- Increased instructors' access to instructor training by providing self-contained instruction especially useful in rural and/or isolated areas.
- Increased the flexibility of instructor training in terms of getting the right training to the right instructor at the right time.
- Increased the productivity of instructor training programs by shortening the time required to certify vocational teachers.
- Reduced the variability and added cohesiveness to the content of vocational instructor training curricula through standardization of the skills vocational instructors are required to master.
- Significantly changed the role of the university trainer from a university-based classroom lecturer to a field-based learning facilitator working with instructors on a small-group and one-to-one basis.

The effects of PBTE on vocational teachers and instructors are as follows:

- Increased competency in teaching, especially in the areas of instruction planning, organizing content into units of instruction, student reinforcement, individualizing instruction, and student performance evaluation.
- Increased instructors' responsibility for their own learning and their ability to be self-evaluative.
- Increased the instructors' convenience in obtaining certification.

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5. Kay A. Adams, Brenda MacKay, and Michael Q. Patton, The Impact of the National Center's Performance-Based Teacher Education Curriculum (Columbus, OH: The National Center for Research in Vocational Education, The Ohio State University, 1980).

- Increased instructors' personal contact with instructor training faculty.
- Increased instructors' confidence in themselves, because they are more certain of what they can do.

Vocational education classrooms and students, too, have been affected by PBTE. It has contributed to the following:

- Improved communication between training institutions and local school districts.
- Increased use of competency-based techniques by instructors with their own students because instructors teach the way they are taught.
- Improved performance of local school administrators in evaluating instructors.

Summary

The National Center's PBTE materials have been widely adopted and have had a marked impact on vocational instructor training and staff development programs. The PBTE materials are more widely utilized than any other of the many products produced by the National Center for Research in Vocational Education.

It is believed that the availability of high-quality, research-based, and field-tested materials, coupled with the logical promise of the essential elements and desirable characteristics of PBTE programs, have significantly increased the responsiveness of teacher and instructor training programs to the needs of their clientele. It is known that the cooperative development procedures, extensive field testing, and the numerous institutional, state, regional, and national workshops conducted to train resource persons contributed significantly to the dissemination of the concepts and materials and implementation of PBTE programs.

There is considerable evidence that PBTE programs are having a long-term impact on improving the quality and competence of vocational teachers and instructors. By providing a flexible and more individualized program, PBTE has enabled teachers to progress at their own best rate to achieve mastery of the desired competencies. It has also increased the productivity of some teacher education programs by shortening the time required for certification.

The PBTE movement has also added emphasis to a competency-based approach for both students and teachers. The two universities studied by Adams et al had helped disseminate PBTE to other universities in their state. Additionally, state and local administrators view PBTE as a key step to implementing competency-based student instruction. As one administrator noted, "If you're going to do performance-based instruction with students, you must get teachers committed first."

Since the National Center's PBTE efforts have met with success, it will not surprise anyone to learn that additional materials are being developed using the same basic research, development, and dissemination methodology. Work in performance-based teacher education has continued through the development of the three new categories of PBTE modules, as well as through the revision of the original 100 modules to update their content and improve their graphics.

A multistate consortium effort is also supporting the development of competency-based modules designed specifically for the preparation of local administrators of secondary and postsecondary vocational programs. See Attachment D for a list of the 32 modules in ten categories that are available for preparing vocational program managers and other leadership personnel. Development work has also been initiated for developing performance-based materials for counselors, supervisors, and other vocational education professionals.

PBTE concepts and materials provide a promising alternative to the more conventional methods of instructor and leadership personnel training. We at the National Center stand ready and anxious to help persons in any country or region who wish to receive training in the implementation of PBTE concepts and materials, technical assistance in program design and operation, or assistance in the translation and/or adaptation of materials for use in any appropriate instructional environment.

ATTACHMENT A

Titles of the National Center's Performance-Based Teacher Education Modules

Category A: Program Planning, Development, and Evaluation

- A-1 Prepare for a Community Survey
- A-2 Conduct a Community Survey
- A-3 Report the Findings of a Community Survey
- A-4 Organize an Occupational Advisory Committee
- A-5 Maintain an Occupational Advisory Committee
- A-6 Develop Program Goals and Objectives
- A-7 Conduct an Occupational Analysis
- A-8 Develop a Course of Study
- A-9 Develop Long-Range Program Plans
- A-10 Conduct a Student Follow-Up Study
- A-11 Evaluate Your Vocational Program

Category B: Instructional Planning

- B-1 Determine Needs and Interests of Students
- B-2 Develop Student Performance Objectives
- B-3 Develop a Unit of Instruction
- B-4 Develop a Lesson Plan
- B-5 Select Student Instructional Materials
- B-6 Prepare Teacher-Made Instructional Materials

Category C: Instructional Execution

- C-1 Direct Field Trips
- C-2 Conduct Group Discussions, Panel Discussions, and Symposiums
- C-3 Employ Brainstorming, Buzz Group, and Question Box Techniques
- C-4 Direct Students in Instructing Other Students
- C-5 Employ Simulation Techniques
- C-6 Guide Student Study
- C-7 Direct Student Laboratory Experience
- C-8 Direct Students in Applying Problem-Solving Techniques
- C-9 Employ the Project Method
- C-10 Introduce a Lesson
- C-11 Summarize a Lesson
- C-12 Employ Oral Questioning Techniques
- C-13 Employ Reinforcement Techniques
- C-14 Provide Instruction for Slower and More Capable Learners
- C-15 Present an Illustrated Talk
- C-16 Demonstrate a Manipulative Skill
- C-17 Demonstrate a Concept or Principle
- C-18 Individualize Instruction
- C-19 Employ the Team Teaching Approach
- C-20 Use Subject Matter Experts to Present Information
- C-21 Prepare Bulletin Boards and Exhibits
- C-22 Present Information with Models, Real Objects, and Flannel Boards
- C-23 Present Information with Overhead and Opaque Materials
- C-24 Present Information with Filmstrips and Slides
- C-25 Present Information with Films
- C-26 Present Information with Audio Recordings
- C-27 Present Information with Televised and Videotaped Materials
- C-28 Employ Programmed Instruction
- C-29 Present Information with the Chalkboard and Flip Chart
- C-30 Provide for Students' Learning Styles

Category D: Instructional Evaluation

- D-1 Establish Student Performance Criteria
- D-2 Assess Student Performance: Knowledge
- D-3 Assess Student Performance: Attitudes
- D-4 Assess Student Performance: Skills
- D-5 Determine Student Grades
- D-6 Evaluate Your Instructional Effectiveness

Category E: Instructional Management

- E-1 Project Instructional Resource Needs
- E-2 Manage Your Budgeting and Reporting Responsibilities
- E-3 Arrange for Improvement of Your Vocational Facilities
- E-4 Maintain a Filing System
- E-5 Provide for Student Safety
- E-6 Provide for the First Aid Needs of Students
- E-7 Assist Students in Developing Self-Discipline
- E-8 Organize the Vocational Laboratory
- E-9 Manage the Vocational Laboratory
- E-10 Combat Problems of Student Chemical Use

Category F: Guidance

- F-1 Gather Student Data Using Formal Data-Collection Techniques
- F-2 Gather Student Data Through Personal Contacts
- F-3 Use Conferences to Help Meet Student Needs
- F-4 Provide Information on Educational and Career Opportunities
- F-5 Assist Students in Applying for Employment or Further Education

Category G: School-Community Relations

- G-1 Develop a School-Community Relations Plan for Your Vocational Program
- G-2 Give Presentations to Promote Your Vocational Program
- G-3 Develop Brochures to Promote Your Vocational Program
- G-4 Prepare Displays to Promote Your Vocational Program
- G-5 Prepare News Releases and Articles Concerning Your Vocational Program
- G-6 Arrange for Television and Radio Presentations Concerning Your Vocational Program
- G-7 Conduct an Open House
- G-8 Work with Members of the Community
- G-9 Work with State and Local Educators
- G-10 Obtain Feedback about Your Vocational Program

Category H: Vocational Student Organization

- H-1 Develop a Personal Philosophy Concerning Vocational Student Organizations
- H-2 Establish a Vocational Student Organization
- H-3 Prepare Vocational Student Organization Members for Leadership Roles
- H-4 Assist Vocational Student Organization Members in Developing and Financing a Yearly Program of Activities
- H-5 Supervise Activities of the Vocational Student Organization
- H-6 Guide Participation in Vocational Student Organization Contests

Category I: Professional Role and Development

- I-1 Keep Up to Date Professionally
- I-2 Serve Your Teaching Profession
- I-3 Develop an Active Personal Philosophy of Education
- I-4 Serve the School and Community
- I-5 Obtain a Suitable Teaching Position
- I-6 Provide Laboratory Experiences for Prospective Teachers
- I-7 Plan the Student Teaching Experience
- I-8 Supervise Student Teachers

Category J: Coordination of Cooperative Education

- J-1 Establish Guidelines for Your Cooperative Vocational Program
- J-2 Manage the Attendance, Transfers, and Terminations of Co-Op Students
- J-3 Enroll Students in Your Co-Op Program
- J-4 Secure Training Stations for Your Co-Op Program
- J-5 Place Co-Op Students on the Job
- J-6 Develop the Training Ability of On-the-Job Instructors
- J-7 Coordinate On-the-Job Instruction
- J-8 Evaluate Co-Op Students' On-the-Job Performance
- J-9 Prepare for Students' Related Instruction
- J-10 Supervise an Employer-Employee Appreciation Event

Category K: Implementing Competency-Based Education (CBE)

- K-1 Prepare Yourself for CBE
- K-2 Organize the Content for a CBE Program
- K-3 Organize Your Class and Lab to Install CBE
- K-4 Provide Instructional Materials for CBE
- K-5 Manage the Daily Routines of Your CBE Program
- K-6 Guide Your Students Through the CBE Program

Category L: Serving Students with Special/Exceptional Needs

- L-1 Prepare Yourself to Serve Exceptional Students
- L-2 Identify and Diagnose Exceptional Students
- L-3 Plan Instruction for Exceptional Students
- L-4 Provide Appropriate Instructional Materials for Exceptional Students
- L-5 Modify the Learning Environment for Exceptional Students
- L-6 Promote Peer Acceptance of Exceptional Students
- L-7 Use Instructional Techniques to Meet the Needs of Exceptional Students
- L-8 Improve Your Communication Skills
- L-9 Assess the Progress of Exceptional Students
- L-10 Counsel Exceptional Students with Personal-Social Problems
- L-11 Assist Exceptional Students in Developing Career Planning Skills
- L-12 Prepare Exceptional Students for Employability
- L-13 Promote Your Vocational Program with Exceptional Students

Category M: Assisting Students in Improving Their Basic Skills

- M-1 Assist Students in Achieving Basic Reading Skills
- M-2 Assist Students in Developing Technical Reading Skills
- M-3 Assist Students in Improving Their Writing Skills
- M-4 Assist Students in Improving Their Oral Communication Skills
- M-5 Assist Students in Improving Their Math Skills
- M-6 Assist Students in Improving Their Survival Skills

RELATED PUBLICATIONS

Student Guide to Using Performance-Based Teacher Education Materials
Resource Person Guide to Using Performance-Based Teacher Education Materials
Guide to the Implementation of Performance-Based Teacher Education
Performance-Based Teacher Education: The State of the Art, General Education and Vocational Education

For information regarding availability and prices of these materials contact—AAVIM, American Association for Vocational Instructional Materials, 120 Driftmier Engineering Center, University of Georgia, Athens, Georgia 30602, (404) 542-2586

ATTACHMENT B

THE PBTE PROGRAM AT THE UNIVERSITY OF CENTRAL FLORIDA

Introduction

At the University of Central Florida, the goal is to develop a fully functioning performance-based vocational teacher education program--one that incorporates all the basic principles and best practices of PBTE. While much progress has already been made toward this end, program development is seen as a long-term and continuing effort. As the program grows and matures, it will be testing the limits of PBTE, probing its concepts, refining its methods, and solving the myriad practical problems of installation and management.

The Setting

The University of Central Florida (UCF) is a young and growing institution, one of nine universities in the state system of higher education. It is mandated to serve the needs of the entire central region of the state, which includes rapidly expanding urban areas as well as several sparsely populated rural counties. The present vocational teacher education program is comprised of trade and industrial and health occupations areas, while an expansion into home economics and industrial arts is anticipated. Preparation of business and office teachers is a separate program. Some 85 percent of those in the program are teachers on the job, recruited directly from business, industry, and service occupations for the teaching profession. They come to UCF for their initial certification, and for undergraduate and graduate degrees. Because of the considerable geographic area to be covered, instruction is delivered in four locations: the main campus and three outlying resident centers.

Program Model

The UCF model for vocational teacher education is designed around groups of research-identified teaching competencies, selected and organized on the basis of their contribution to teacher success and proper sequence in fostering the teacher's professional growth. University professional education courses, called "Competency Clusters," each include a number of related competencies to be achieved. The cluster "Essential Teaching Skills," designed to help teachers survive in the profession, is the required first experience, but other clusters may be completed in any order, depending on the individual teacher's needs. In the undergraduate program, for example, there are eight clusters, which include a total of 48 required and 11 elective competencies.

The program is conceived as two partially concurrent stages: (1) the teacher achieves proficiency in all program competencies through the cognitive and practice level within a university seminar setting, and (2) the teacher demonstrates final competence in selected competencies in an actual school situation. Designated required competencies are to be achieved by every

teacher on the basis of individual needs, interests, and career goals. In the Advanced Certificate and Graduate Program, all clusters are of variable credit, with the teacher building an entirely personalized program of specific competencies. Criterion-based grades of A, B, or C are awarded to designate levels of teacher achievement, but lower levels of performance are not recorded, nor is credit given. Teachers may progress through a cluster at their own best rate, and may "test out" of a competency by demonstrating proficiency and meeting final assessment criteria.

Instruction

There are three basic elements in the instructional program: the PBTE instructional module, seminar sessions devoted to each module, and individualized instruction and counseling. Mainstays of instruction are the National Center's PBTE Modules, though some additional modules unique to Florida's needs are being developed by UCF project staff. The modules are used just as designed, with readings, teacher feedback, simulations, practice, and final performance all included. The UCF program involves none of the typical university instructional devices of quizzes, term papers, book reports, or final examinations.

The weekly cluster seminar is vital to the achievement of the teacher and the success of the program. Scheduled in advance, each seminar focuses on one specific module and its inherent competencies. Attendance is expected. In the seminar, the teacher educator/resource person may provide enrichment or situation-specific materials, clarify ideas, answer questions, bring in additional resources, and/or observe and assess practice performances. Individual conferences are also held as needed to help teachers overcome specific obstacles to competency achievement.

Assessment

Teacher assessment takes place in two phases: in the seminar and in an actual school situation. As teachers work to achieve a competency within the seminar setting, they present a specified performance (e.g., demonstrate a manipulative skill to a group of peers) or produce a specified product (e.g., develop a safety handbook for an occupational area) appropriate to the competency. The results are assessed by the resource person using checklist criteria known to the teacher. The product or performance must reach the "Good" or "Excellent" level; otherwise, the teacher is recycled until that level is achieved.

Later, at a time designated by the teacher, the teacher demonstrates the competency in an actual teaching situation, usually involving his/her own students and class setting. Assessment of the performance is done by school personnel (e.g., dean of instruction, area supervisor, instructional specialist) serving as field resource persons, with training and supervision provided by the university. In the undergraduate degree program, each of 33 designated teaching competencies must be performed according to the criteria in the module's Teacher Performance Assessment Form before 12 quarter hours of field experience credit are awarded and the teacher recommended for certification.

Summary

Even in its early stages of development, benefits of the UCF PBTE program are beginning to become evident. It allows, in a way the conventional program could not, for the delivery of the right instructional program, at the right time in the teacher's professional growth, and at the right place, available as needed. Because the modules are basically self-contained, the program can be brought almost anywhere. Because the program is based on teaching skills, vocational teachers find it relevant, immediately applicable, and directly contributing to their success. Because it is constructed of the relatively small building blocks of competencies, the program is flexible, current, and readily individualized and personalized. The UCF model appears to be a feasible and practical one, transportable and adaptable to a wide range of university and field-based settings.

Further information may be obtained through:

Glen Fardig, PBTE Project Director
University of Central Florida
Box 25000
Orlando, Florida 32816

ATTACHMENT C

PBTE WITHIN AN INSTITUTIONAL PROFESSIONAL DEVELOPMENT PLAN

At the Albuquerque Technical-Vocational Institute, PBTE concepts and materials are integrated into a total Professional Development Plan (PDP). Forty-one selected modules form the backbone of the instructional skills phase of the PDP. Proficiency in these modules is required of all persons hired as teachers but who have not completed a preservice teacher education program. The modules identified as critical are B-1, B-3, B-4, B-5, B-6, C-1, C-2, C-3, C-4, C-5, C-6, C-7, C-8, C-9, C-10, C-11, C-12, C-13, C-14, C-15, C-16, C-17, C-23, C-24, C-25, C-26, C-29, D-1, D-2, D-4, D-5, D-6, E-5, E-6, E-8, E-9, F-3, F-5, G-8, I-3, I-5. Other modules are used with teachers as needed to either develop or reinforce their skills. All of the modules have been coded as (1) required for beginning teachers or (2) additional work needed for certification purposes or for "master teacher" expectations.

The PBTE concepts and materials are being used in all vocational and technical programs of the Institute as well as in the "Preparatory" program, our program for students who need additional learning skills in order to function successfully in one of the training majors. Since there is no preservice requirement for hiring of teachers at the Institute, this program provides the basis for most of the teacher education experiences needed for the teacher to function successfully in the classroom. The delivery system for these initial teacher skills is a combination of formal course work and individual and/or group work on the modules with assistance from master teachers who serve as Field Resource Persons. Courses are taught jointly by professors from the Department of Secondary and Adult Education at the University of New Mexico (UNM) and leadership personnel from the Institute.

These resource persons are trained through inservice workshops developed by the Institute and involving personnel from UNM. The Institute maintains a professional services contract with Secondary and Adult Education that provides for a professor being on campus one day per week to assist with the PDP project.

The PDP, including this segment of teacher skills development, is administered through the regular administrative channels of the Institute. Additionally, there is a teacher assigned half-time as a Resource Specialist for the project to assist teachers with identifying the various activities that they might need or want to pursue. The specialist also works with administrators to assist them in aiding teachers in completing the various activities that have been agreed upon. The program utilizes Field Resource Persons--volunteer master teachers who receive PDP credit for their activities--to work one-on-one with teachers in training. A survey is taken regularly to determine who is willing to be a field resource person and/or with whom teachers would like to work as field resource persons. The program is self-paced, within the requirements of the Institute that the basic teaching skills modules be completed within the first two years of initial employment.

All of the skills learned are used in regular Institute classrooms and are verified by one of the resource persons working within the overall PDP activities. Records are kept on each person in their PDP file, indicating their accomplishments in the teaching skills area along with other activities and accomplishments resulting through the PDP.

The most difficult implementation problems experienced to date relate to the development and deployment of resource persons. This required some changes in Institute philosophy and practice in terms of responsibilities as well as in the deployment of personnel. These were dealt with most effectively through the use of an outside consultant, Jim Pollard from Spokane Community College, and a series of training workshops initiated as a result of his assistance.

The Teacher Resource Center houses all materials and media for the PDP, both purchased and internally developed materials. Of particular interest are some of the slide/tape programs that instructors have been developing in a variety of teaching skills areas, which are placed in the center. Each topic includes institutionally based requirements and teaching skills blended together, i.e., "How to Plan a Field Trip." This permits teachers who are working on the module of the same title to tie it directly into what happens at our Institute. Plans are underway to develop parallel materials for each of the "B" and "C" modules.

Further information may be obtained through:

Richard S. Rounds, Director, Day Division
Albuquerque Technical-Vocational Institute
Albuquerque, New Mexico 87106

ATTACHMENT D

Competency-Based Vocational Education Administrator Module Series

Developed by:

THE NATIONAL CENTER FOR RESEARCH IN VOCATIONAL EDUCATION
THE OHIO STATE UNIVERSITY
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For further information concerning the availability of training in CBAE concepts and effective use of the materials, contact the Consortium Program Director, Consortium for the Development of Professional Materials for Vocational Education, The National Center for Research in Vocational Education, The Ohio State University, 1960 Kenny Road, Columbus, Ohio 43210. (614) 486-3655 or (800) 848-4815

MODULE NUMBER	TITLE OF MODULE	PRICE EACH
	CATEGORY A: PROGRAM PLANNING, DEVELOPMENT, AND EVALUATION	
LT-A-1	Develop Local Plans for Vocational Education: Part I	7.00
LT-A-2	Develop Local Plans for Vocational Education: Part II	6.50
LT-A-3	Direct Program Evaluation	5.55
	CATEGORY B: INSTRUCTIONAL MANAGEMENT	
LT-B-1	Direct Curriculum Development	4.60
LT-B-2	Guide the Development and Improvement of Instruction	6.00
LT-B-3	Manage the Development of Master Schedules	3.15
	CATEGORY C: STUDENT SERVICES	
LT-C-1	Manage Student Recruitment and Admissions	5.55
LT-C-2	Provide Systematic Guidance Services	5.55
LT-C-3	Maintain School Discipline	5.55
LT-C-4	Establish a Student Placement Service and Coordinate Follow-up Studies	6.50
	CATEGORY D: PERSONNEL MANAGEMENT	
LT-D-1	Select School Personnel	7.45
LT-D-2	Supervise Vocational Education Personnel	4.60
LT-D-3	Evaluate Staff Performance	5.55
LT-D-4	Manage School Personnel Affairs	6.00
	CATEGORY E: PROFESSIONAL AND STAFF DEVELOPMENT	
LT-E-1	Appraise the Personnel Development Needs of Vocational Teachers	7.45
LT-E-2	Provide a Staff Development Program	5.15
LT-E-3	Plan for Your Professional Development	5.15
	CATEGORY F: SCHOOL-COMMUNITY RELATIONS	
LT-F-1	Organize and Work with a Local Vocational Education Advisory Council	5.55
LT-F-2	Promote the Vocational Education Program	6.50
LT-F-3	Involve the Community in Vocational Education	5.15
LT-F-4	Cooperate with Governmental and Community Agencies	6.00
	CATEGORY G: FACILITIES AND EQUIPMENT MANAGEMENT	
LT-G-1	Provide Buildings and Equipment for Vocational Education	6.00
LT-G-2	Manage Vocational Buildings and Equipment	7.00
LT-G-3	Manage the Purchase of Equipment, Supplies, and Insurance	5.55
	CATEGORY H: BUSINESS AND FINANCIAL MANAGEMENT	
LT-H-1	Prepare Vocational Education Budgets	6.50
LT-H-2	Identify Financial Resources for Vocational Education	6.00
LT-H-3	Develop Applications and Proposals for Funding Vocational Education	7.45
	CATEGORY I: PROGRAM IMPROVEMENT	
LT-I-1	Use Information Resources to Help Improve Vocational Education Programs	4.60
LT-I-2	Use Inquiry Skills to Help Improve Vocational Education Programs	5.15
	CATEGORY J: LINKAGE WITH BIL/GM	
LT-J-1	Develop a Linkage Plan	4.15
LT-J-2	Establish Linkages with BIL/GM	5.45
LT-J-3	Provide Customized Training Programs for BIL/GM	5.95
	COMPLETE SET (10% discount)	165.80
	SUPPORTIVE MATERIALS	
	CBAE:	
	Guide to Vocational-Technical Education Program Alternatives: Secondary and Postsecondary--An Introduction	5.15
	Guide to Using Competency-Based Vocational Education Administrator Materials	1.75
	Resource Person's Guide to Implementing Competency-Based Administrator Education Concepts and Materials	6.50
	An Introduction to Competency-Based Administrator Education (slide/audiotape)	50.00
	Optional Supplementary Print and Audiovisual Resources Suggested for the CBAE Modules (bibliography)	1.00
	LINKAGE WITH BIL/GM:	
	A Guide to Linkage in Action: Selected Models	2.35
	Linkage Is . . . A Guide for Board Members	1.00
	Linkage Is . . . A Guide for BIL/GM	1.00